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"THE ROLE OF INPUT INCENTIVES IN CANADIAN AGRICULTURAL DEVELOPMENT"

by
R. O. McGiffin

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C H A P T E R I

ABSTRACT

Widespread use of input incentive programs in Canadian agriculture and an absence of information on their effects, led to this examination of the role of incentives in Canadian agricultural development. Facilitated by the computer search program in the library system, a review of literature pertinent to incentives is compiled to determine where, and to identify how, input incentives are used in developing Canadian agriculture. The project examines four input incentive programs operating in Canada by considering the programs' criteria, and also through informal interviews of program supervisors. This was in order to isolate some strengths and weaknesses of the respective programs. To illustrate some of the implications of input incentive programs on the various markets involved, a group of developing farmers in Alberta are arbitrarily selected and a hypothetical input incentive program is directed towards them. The paper concludes with several suggestions for future input incentive programs.

STATEMENT OF THE PROBLEM

There is widespread use of input incentives in many government programs in Canadian agriculture. Roughly 40%,

or 267 out of 678 provincial agricultural programs offered have input incentives (12). In spite of this government emphasis upon incentives, Everett Rogers (noted diffusion expert), says we lack information on the effects of incentives, on whether they should even be offered, on how large they should be, and whether they should be offered once only, or continued. (18, P.145) This project will involve the issues Rogers raises, but will mainly provide a basis for future study on the role of incentives in agricultural development.

OBJECTIVE OF THE PROJECT

Essentially the objective is to carry out a review of the literature and draw together human motivation theory, agricultural development information and the role input incentive programs play in Canadian agriculture.

QUESTIONS TO BE ADDRESSED

1. Can examining four input incentive programs in some detail reveal any strengths and weaknesses about incentives?

2. What could be some of the effects of input incentives on Canadian agriculture?

DEFINITIONS OF TERMS FOR PURPOSES OF THIS PAPER

1. agricultural development - an emphasis which is put upon increasing the output and improving the technology of an existing agricultural economy.

2. input incentives - inducements out of public funds, usually of a tangible or monetary nature, to entice a farmer to try an innovation on his operation.

PROCEDURE

1. The literature review was compiled by using the literature search program available through the University of Alberta Library System. The review was the basis for determining the role of input incentives in Canadian agricultural development.

2. To reveal some of the strengths and weaknesses of input incentive programs, the criteria of four Canadian programs was investigated, supplemented by informal interviews of each program manager.

3. The effects of input incentives upon developing farmers were estimated by identifying these farmers and their value of production sold from 1976 Census information. The value of production sold by developing farmers relative to the total sold by all farmers served as a basis for conjecturing any effects on the input-output markets when

an input incentive was offered to developing farmers.

4. The project was completed during the 1978 University winter session.

THE REVIEW OF RELATED LITERATURE

Human Motivation

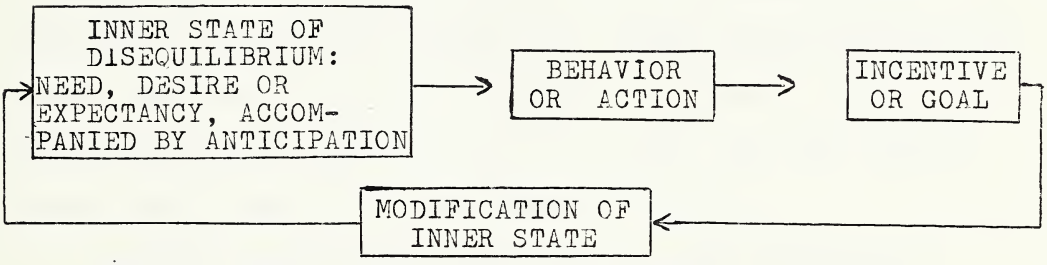
A brief review of some of the main theories of motivation serves to introduce the practise of using incentives. An appropriate linkage between motivation and incentives is formulated by Tiffin and McCormick when they state,

> Central to the way in which an individual behaves in any given circumstance is the nature of his motivation. In order to better understand individual motivation, it is helpful to have some understanding of some of the general facts and principles relating to motivation. In this connection let us first differentiate between "needs" and "incentives". "Needs" are the internal, felt needs of individuals. They are also referred to as "drives" or "desires". "Incentives" (also referred to as goals) are external factors which the individual perceives (rightly or wrongly) as possible satisfiers of his felt needs. Thus, "thirst" is a "need", and "water" is an "incentive". Water (the incentive) satisfies thirst (the need). (22, P.340)

Motivation, very broadly defined, is that which activates (causes), directs and sustains people's behavior. Essentially, the field of human motivation is comprised of the three aspects of: an internal state (needs); or an external state (incentives); or the process of needs internally changing behavior due to an external state i.e. incen-

tive or simply the process by which the internal state and the external state are related. (21, P.6) Steers and Porter provide a schematic that conceptualizes the process in FIGURE I (21, P.7)

FIGURE I.
A GENERALIZED MODEL OF THE BASIC MOTIVATION PROCESS


INNER STATE OF DISEQUILIBRIUM: NEED, DESIRE OR EXPECTANCY, ACCOMPANIED BY ANTICIPATION
BEHAVIOR OR ACTION
INCENTIVE OR GOAL
MODIFICATION OF INNER STATE

First consider human motivation as an internal aspect in which needs or desires force an outcome. When considering needs in motivation theory, it would be remiss to exclude the works of Abraham Maslow because he provides a very convenient way to discuss human needs. A summary of his approach is as follows:

1. man is a perpetual "wanting" creature as he seeks satisfaction of a multiple of needs.

2. these needs can be classified into the five sets of needs of physiological well-being, safety, acceptance, esteem, and self-actualization.

3. these sets of needs are arranged in a sequential hierarchy, so that physiological well-being must be satiated before safety is a consideration, which in turn must be satisfied prior to considering acceptance needs, and so on.

Ruth Barry and Beverly Wolf postulated another theory of motivation which they feel is common to human beings everywhere regardless of social group or geographical location. Their basic theory is: "Human beings strive to learn, to express themselves within a culture, and to achieve positive experiences." (1, P.3) In this theory, needs, again, are basically human motivation.

Another stance on the motivation needs theory is Herzberg, Mausner, and Snyderman's hygiene/motivation concept. Essentially their work consists of identifying the positive feelings or motivators people have for their job, as well as the negative feelings or hygiene factors people encounter on the job. This theory does not vary much from Maslow's, in that motivators may be compared to his higher order needs of esteem and self-actualization, while the hygiene factors are synonomous with the more basic needs of physiological well-being, safety, and acceptance. The two theories diverge when one considers that Maslow's appears to indicate that needs at all levels may be the source of motivation if they are not satisfied, whereas the

hygiene/motivator theory claims that hygiene needs may cause dissatisfaction if not met but do not cause motivation. Motivation can only come from higher level needs.

A fourth theory, the ethnographic theory of needs, is promulgated by Robert Audrey. He states,

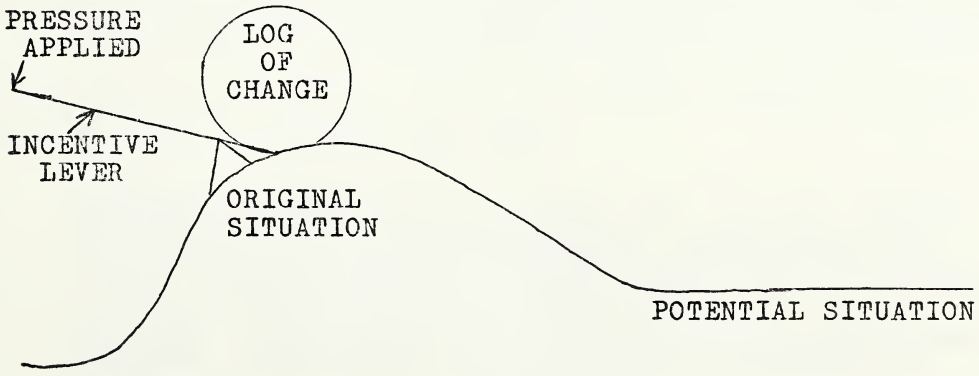
> There are need forces behind our behavior: the need to be right, to be in control, to get our own way, to get even, to be secure, to have influence, and to be noticed. When these needs are fulfilled we feel good. (2, Pp.28-29)

In essence this theory does not put needs into a hierarchial framework like Maslow, or a work environment as in the hygiene/motivator theory. However, it does provide another way of classifying basic human needs. The ethnographic theory of motivation describes the basic human needs as: "survival of the species, seeking pleasure, the necessity for security, and territoriality". (2,P.30)

All four theories mentioned above are concerned with the internal aspect of motivation which are needs or drives. An alternative to these theories is the external aspect of motivation which refers to the goals or incentives of the individual i.e. that which gives direction to behavior. For clarification purposes, this writer will make a distinction between the words "subsidy" and "incentives", although the two terms have been treated as synonymous by others. Throughout, an incentive is one form of a subsidy. An

incentive pertains to an impetus to try an innovation, while a subsidy refers to a remuneration for maintenance of a practise. Simply put, an incentive is an initiator and a subsidy a sustainer. Everett M. Rogers asserts that, "The function of an incentive is to increase the degree of relative advantage of the new idea." (18, P.144) A schematic which depicts an incentive as a lever under a log of change or innovation, may serve to illustrate an incentive and its function. (see FIGURE II) "The pressure on the lever (incentive) results in the forward motion of the log (innovation) so that a new situation is reached that is different from the original situation." (14, P.2)

FIGURE II.
FUNCTION OF AN INCENTIVE
COMPARED TO A LEVER OF CHANGE



To consider some specific examples of incentives at this point, one can once again turn to Rogers who says,

> Incentives can take many forms. Some incentive policies are designed only to encourage a small-scale trial of a new idea; an illustration is the free samples of a new product that are offered by many commercial companies to their customers. The strategy here is that by facilitating trial use, full-scale adoption will follow (if the innovation possesses a potential relative advantage that can be perceived by the receiver). Other incentive policies are designed only to secure adoption of a new idea by earlier adopters; once a level of 20 or 30 percent adoption is reached in a social system, the economic incentive is discontinued by the change agency. (18, P.145)

An example of this latter form of incentive, is when promotion is discontinued for recent farm machinery innovations like the big round baler. Prior to any sales in an area the company representatives demonstrated the benefits of the balers on-farm to a group of selected farmers. Once this group bought the idea and the balers, the demonstrations ceased, because the idea was sold in the area and the rest of the farmers were expected to follow suit over time.

Referring to an industrial setting, Tiffin and McCormick make a classification of incentives which illustrates the various forms incentives can take:

> Formal incentives
> Positive: money, bonuses, promotion, awards, formal commendations, special privileges, (memberships in clubs, officer dining room privileges, special parking location, etc.), choice of work schedule.
> Negative: reprimands, disciplinary actions, demotions, lay-offs, discharges, withholding or withdrawal of privileges.

Informal incentives
Positive: praise, encouragement, friendly attitudes by others, acceptance by group, minimum supervision, respect by management and fellow workers.
Negative: disapproval and rejection by others, criticism, assignment to more onerous job, lack of work cooperation by fellows, being "picked on" by supervisors and fellow workers. (21, Pp.370-371)

One could perhaps modify the above classification to fit an agricultural development setting as follows:

Formal incentives
Positive: money, grants, or better prices.
Negative: no sales, losses, regulating actions.

Informal incentives
Positive: praise, encouragement, friendly attitudes by others, acceptance by groups, publicity.
Negative: disapproval and rejection by others, criticism.

At this point one may wonder if incentives or external motivation really help explain human motivation. However, the expectancy theory on motivation proposed by Victor Vroom is useful in explaining how the internal and external states are related. This theory endeavors to explain each individual's unique behavior through three concepts: instrumentality, valence and expectancy. A description is as follows:

> Vroom views motivation as a process that guides the choice patterns of an employee when faced with several alternatives ... . The employee must initially choose among several first-level outcomes. For example, imagine that you are enrolled in an advanced accounting course essential to getting a desirable job offer. Your first-level outcome alternatives range from A through F but the A outcome will assume high, positive valence because you see that outcome as a prerequisite to your preferred second-level outcome --- a good job

> offer. Your selection of a first-level outcome will be based upon the relationship between it and possible second-level outcomes. The individual's perception of this relationship is called instrumentality. By valence, Vroom means the strength of an individual's desire for a particular outcome. Expectancy is the probability that a specific action will lead to a particular first-level outcome. According to Vroom, an employee's motivation to perform a certain act is determined by the algebraic sum of the products of the valence for the outcome of which instrumentality is a part, multiplied by the expectancies. (10, P.43)

In effect, Vroom's theory says that motivation is the process whereby an internal need or motive is satisfied by a change in the individual's behavior, which in turn is due to an external incentive or goal.

It appears as if the motivation needs are only part of the human motivation story, and this is confirmed by the findings of Cofer and Appley. They state that the "level of aspiration and related techniques indicate that individual motives, the value of the incentive, and the subjective probability of obtaining the incentive must all be taken into account." (5, P.806) Human motivation is a highly complex process in which needs are interrelated with several other factors such as personal experience, emotions, attitudes, likes, fears, etc. to form the motivational base for each individual.

Tiffin et al. point out another side to the human motivation process when they report,

> Each person also has his own sets of values relating to incentives that are different from those of other people. This, in turn, leads to our difficulties in interpreting the actions of other people, since "we" have values different from "theirs", and therefore their behavior does not make sense from "our" point of view. (21, P.354)

It becomes clear that two perspectives arise from human motivation. First, the motivational forces of individuals vary considerably; second, attitudes toward incentives may not be the same. These two findings will have tremendous bearing on the application of incentives in agricultural development, and will be discussed further on in this paper.

Agricultural Development

Prior to considering how incentives can facilitate agricultural development, one should be certain what agricultural development is, and how it relates to the individual farmer. Although agricultural development may be associated with a growth process or quantitative increase in production, this is a very narrow assessment of what takes place. Essentially, when we refer to agricultural development, we are considering changes at a social system or macroanalytic level, rather than at a individual or microanalytic level. The individual or microanalytic level may be better described as moving from a traditional to a modern way of practising agriculture, or simply, modern-

ization. The net result of modernization of individuals is a modern agriculture which Mosher describes as:

> 1. the technology and efficiency of farming are continuously being improved;
> 2. the kinds of commodities produced on farms are constantly changing (at least in their proportions to each other) in response to changing market demands and costs of production;
> 3. the quality of land, the competence of labor, and the forms and quality of capital instruments used in farming are steadily being improved;
> 4. the proportions in which land, labor and capital are combined in farming keep changing in response to changes in population growth rates, changes in alternative employment opportunities, and changes in farm technology as expressed in shifting relative prices of factors of production;
> 5. finally ... a modern agriculture is one that is served by private and public agencies that are continuously being adapted to serve new functions in new ways. (17, P.XIV)

One of the shortcomings of using the terms "traditional" and "modern" when referring to the movement from underdeveloped to developed agriculture is the idea of such a simplistic process being conveyed. In reality the word "traditional" only indicates a condition that is ripe for change or modernization, and neglects the complexity of making such a change. Galjart discounts the terms "traditional" and "modern" when he says,

> Instead of trying to salvage the concepts, it seems wiser to drop them altogether and to attempt in each actual case to determine what sociological factors impede the development of agriculture. Such factors may be classified under the following three headings:
> 1. Ignorance; the farmer does not know what he can do other than what he is currently doing.

> 2. Inability; the farmer knows what he could do but is unable to do it for financial or other reasons.
> 3. Unwillingness; the farmer knows what he should do and can do it, objectively speaking, but does not want to; certain attitudes and values prevent him. Another way of putting it is that he prefers to achieve some other value. (8, P.34)

According to Galjart, many agricultural development programs have emphasized solving problems of ignorance and unwillingness, but neglected the inability aspect in their thrust. One might add that the inability aspect is the most logical one to direct an incentive upon, whether the farmer's problem be a financial shortcoming, or risk aversity, or any other factors related to inability. To pursue the inability aspect of agricultural development further, once again A. T. Mosher provides the information that;

> it will never be possible for every farmer to be located on the best land, with the greatest access to markets and farm supplies and equipment. Nor is it possible for every farmer to have the highest skill. There will always be differences in farming ability as well as in agricultural resources. One of the main tasks in agricultural development is to find ways of farming that farmers of typical ability can use effectively if only they learn a little more and develop somewhat better skills. Another is to find more productive uses for farms of only moderate productivity, along with practicable means of increasing the land's fertility. Other tasks are to create resources of education, farm supplies, credit and market outlets that make it not too difficult for all farmers who are willing to work at it to raise the productivity of their farms. (16, P.10)

Take note that Mosher refers to "farmers of typical ability

for development", and one wonders with Galjart what to do for farmers beneath that "typical ability".

In agricultural development, the development process is a gradual one. Farmers do not just move from a static subsistence level to a dynamic commercial level overnight. They have to decide upon goals, and then undergo a transitional process to realize those goals. This may take several years, or even a generation of farmers. Hayami and Ruttan identify ten major characteristics in which the agricultural sector must advance from a static position in Stage I, through the transitional position of Stage II, and ultimately to the dynamic position of Stage III. This concept is portrayed in TABLE I (9, P.16).

In conjunction with the actual process of agricultural development, farmers must be motivated to facilitate the change, and John Mellor lists the three necessary conditions of economic change as:

> 1. there must be desire for increased material welfare. If farmers are fully content with their lot, they will not change practises in order to increase production and income.
> 2. expectations that change will in fact increase wealth.
> 3. expectations on the part of the innovator that he will himself participate in the net increase in wealth which accompanies successful innovation. (15, Pp.245-247)

TABLE I
Summary of ten major characteristics of agricultural development from Stage I through Stage II and into Stage III

General character	Stage I → Stage II → Stage III (Static) (Transitional) (Dynamic)	
1. General values, attitudes, motivations	Negative or resistant	Positive or receptive
2. Goals of production	Family consumption and survival	Income and net profit
3. Nature of decisionmaking process	A-rational or traditional	Rational or "choice-making"
4. Technology or state of arts	Static or traditional with no or slow innovation	Dynamic or rapid innovation
5. Degree of commercialization of farm production	Subsistence or semi-subsistence	Commercial
6. Degree of commercialization of farm inputs	Family labor and farm produced	Commercial
7. Factor proportions and rates of return	High labor/capital ratio; low labor return	Low labor/capital ratio; high labor return
8. Institutions affecting or serving agriculture and rural areas	Deficient and imperfect	Efficient and well developed
9. Availability of unused agricultural resources	Available	Unavailable
10. Share of agricultural sector in total economy	Large	Small

Although Mellor seems to emphasize wealth as the main motivator, other related factors such as labor shortage or peer group pressure may also be instrumental in fostering economic change.

One may conclude this survey of agricultural development by adding that agricultural development has several implications for both the agricultural and nonagricultural sectors. A. T. Mosher summarizes the implications very well when he says,

> Agricultural development thus is an integral part of general social and economic development... Agricultural development is a social product. It is not the result of the work of farmers alone. It is a result of the activities of farmers and farm families, lawmakers, highway engineers, merchants, manufacturers, research workers, teachers, veterinarians, editors, and every citizen who participates in electing public officials and influencing the laws of his country. (16, P.12)

The following section will fit incentives into the agricultural development process.

Incentives in Agricultural Development

In the transition from an underdeveloped to developed state of agriculture in a country, there are certain inhibitors which farmers must overcome in order to realize improved practises. The Food and Agriculture Organization of the United Nations (FAO) reports that such inhibitors

include;

> poor communication and lack of transport facilities, the ignorance or apathy of farmers, and a wholly inadequate supply of irrigation water, fertilizer, pesticides, better planting material and other requisites of improved farming. Most often however, the major underlying cause is the lack of any real economic incentive for the average farmer to step up his production for the market, by making a greater effort or by adopting improved methods as they become available to him. There is no assured outlet for his produce, and all too often a larger output has led only to falls in prices and sometimes even in total returns. Low and excessively unstable prices make the additional effort and outlay too risky to be worth undertaking. Equally important in their effect on producers' incentives in many countries are unfavorable and out-dated rural institutions, especially in respect of land tenure, credit for the purchase of essential requisites, and marketing. (7, P.1)

FAO raises a number of issues involved in agricultural development ranging from output prices to marketing, and none of these issues can be neglected in a development plan. The emphasis of this paper is on input incentives and their role in development, but obviously the forementioned issues must also be given consideration.

After a review of the literature on incentives, Roshan Singh, Y. P. Singh and Birendre Singh concluded that the need of incentives in agricultural development is threefold, namely:

1. the high cost of production is the most important limitation to the use of new farm practises.
2. the financial limitation of farmers is the factor

responsible for a low level of adoption of improved agricultural practises.

3. the lack of timely supply of production requisites impedes the acceptance of an agricultural innovation. (19, Pp.43-44)

When referring to the use of incentives in agricultural development, the foremost consideration is the target group's specific situation. Bodenstedt builds an elaborate explanation of how these situations relate to the acceptance of an incentive when he considers "regional differentiation". He explains this regional differentiation among farmers as follows:

> 1. Location with unused development potential, whose characteristic factors (which need not appear all at the same time, but occur frequently) are: over-population, mainly small and diminutive farm size structure, indebtedness of small and medium-sized farms, absence of market centers with strong pressure of demand, great dependence of agriculture upon climate, rainfall and natural catastrophes damaging the crop, strict class pattern with little social mobility, few communication channels and centers on the supra-village level, no insight into or experience with modern technological changes.
> 2. Location with larger but incompletely used development potential, with the following characteristic factors: Less frequent occurrence of factors mentioned before (possibly no population pressure), particularly less strict class pattern with ascriptive characteristics, regional urban centres of industrialization within reach of agricultural hinterland, and in connection with this, larger and more widely distributed outlets and centres of demand. The decisive result of such a combination of factors is that technological change appears and can be perceived

> in the 'environment', the farmers' sphere of experience, without any pressure for participation.
> 3. Location with greater and mainly activated development potential, showing these characteristic factors: little population pressure, largely medium-sized farm structure; road and railway network, urban centres of demand and mass media developed; facilities for protection against natural catastrophes (canal, dams), governmental or cooperative organization for raising credits and supplying farm equipment, high permeability of social classes, homogeneous or balanced cultural group pattern.

Bodenstedt further claims that, "In each of these three... certain conceptual patterns dominate the motivation process of the farmers", such as:

> 1. In the first location the dominant conceptual pattern is the every day upkeep of the family.
> 2. In the second location this subsistence attitude is superseded (but not yet suppressed, corresponding to the ambivilent development situation) by an attitude governed by considerations of efficiency, profit and competition.
> 3. In the third location subsistence attitude is insignificant. Efficiency considerations are largely dependent on the availability of knowledge of farm management economy. (3, P.286)

One may recognize a similarity between the three locations of Bodenstedt and Ruttan and Hayami's three stage model of development referred to earlier in TABLE I. Bodenstedt also enlarges on the above three categories and the way each type of farmer reasons. In the first location expected production cannot fulfill the wants of the family, even though those wants are fixed at the lowest possible level. In other families, where by past experience the

family needs are satisfied every season, traditional wants never go unrealized but new wants can be introduced from outside contact. The middle group of farm families are apt to fall into the lower category in a bad year (consuming abstinence becomes necessary) and into the higher category in a good year (new wants possible).

Regarding incentives to the above three groups: the families with assured subsistence, need incentives in the form of new wants which must be created to stimulate their interest in profit-making, as well as capital to invest; the middle category needs incentives as stop-loss protection for prices and marketing, to ensure profits; and the low subsistence group must have a higher man/land ratio (which requires some farmers to migrate out of agriculture) in order to raise their wants above subsistence and eventually to profit-making. Clearly, for incentives to have an effective role in agricultural development it is necessary to direct the right incentives toward the right group.

Thus, with some idea of where incentives fit into agricultural development, the next logical step is to consider how domestic Canadian agricultural development programs have utilized incentives in their delivery.

C H A P T E R I I

CANADIAN AGRICULTURAL DEVELOPMENT PROGRAMS WITH INCENTIVES

To provide an overview of how frequently input incentives are used in Canadian agricultural programs a table of input incentive programs was fabricated from the Agriculture Canada publication Policies and Programs for Agriculture (12), 1976. This listing included all provincial agricultural programs in effect at that time. (see Table II) It was arbitrarily decided what constituted an input incentive program on the basis of whether or not the program put cash into the farmer's hand for expenditures toward inputs. This criterion excluded programs with output incentives, or with management inputs only, and also excluded the rural development-type programs, such as 4-H. Although this approach can be critized as a rather crude way to lump together programs, it nevertheless indicates the emphasis various provinces have for input incentive programs. As an example, Saskatchewan has 34% of its total number of programs committed to input incentives.

TABLE II

INPUT INCENTIVE PROGRAMS

Province Where Programs In Effect	Total Number Of Agricultural Programs (All programs listed in Appendix A)	Programs With Tangible Input Incentive Component (Specific programs listed as * in Appendix A)
British Columbia	73	16/73 or 22%
Alberta	69	17/69 or 25%
Saskatchewan	70	24/70 or 34%
Manitoba	78	20/78 or 26%
Ontario	94	14/94 or 15%
Quebec	83	49/83 or 59%
New Brunswick	72	48/72 or 67%
Nova Scotia	47	33/47 or 70%
Prince Edward Island	45	24/45 or 53%
Newfoundland	47	22/47 or 47%

This overview of Canadian agricultural development programs provides an introduction for reviewing four typical input incentive programs in some detail. The four programs are selected to achieve some national distribution, and also to concentrate on some programs (two) with which the author has had prior experience.

FOUR INPUT INCENTIVE PROGRAMS

The four input incentive programs selected for discussion are: the Solonetzic Soil Reclamation Program in Alberta; the Farm Diversification Program in Manitoba; the Hog Industry Production Incentive Program in Nova Scotia; and the national Small Farm Development Program. There is no attempt in this paper to generalize about input incentive programs by examining only four programs. Perhaps all those identified in the last section should be reviewed prior to making any generalizations, but obviously this is beyond the scope of the paper. The main purpose in reviewing these four programs is to consider the published descriptions and the strengths and weaknesses of each, facilitated by informally interviewing program managers who have a good insight into their respective programs.

1. Solonetzic Soil Reclamation Program (Alberta)

Overview: roughly 30% of the arable land in Alberta is solonetzic soil, known for its hardpan layer within the soil horizon, that can be 2 to 12 inches thick and restricts moisture and root penetration. The hardpan is caused by a high concentration of sodium ions which disperse the clay particles. Often calcium salts occur naturally below the hardpan layer. Deep-ploughing below this layer in certain areas can bring up the calcium salts to mix with the hard-

pan and alleviate the problem. Estimates ranging from one-twelfth to one-sixth of all Alberta's solonetzic soil could benefit from this practise.

Objective: to permit a limited number of farmers to evaluate the benefits of deep-ploughing their solonetzic soils, which would then subsequently serve as demonstration plots for surrounding farmers.

Eligibility: interested farmers with solonetzic soils located at strategic points throughout the solonetzic problem areas of the province.

Assistance: the province bore 60% of the cost of a 10-acre deep-ploughing demonstration per farmer, in return for access to monitor the on-farm results for a number of years. The program was limited to approximately 120 demonstrations.

Overall Comments: the best results of the 120 farms seemed to come from the better managers, which perhaps was a reflection of their better overall management ability combined with the land improvement.

Strengths of the Incentive: the program was overwhelmed with farmers' requests to participate, plainly indicating the need of the program. The greatest strength was the on-farm demonstration aspect, which showed farmers what would, and would not work in each area, on a small scale. Not only participating farmers benefited from this information,

but also their surrounding neighbours. Groups of participating farmers formed county associations, which served as an educational facility through tours of the various plots. Sixty percent of the participants showed crop increases after the deep-ploughing, and the deep-ploughing also led to some crop diversity which had been previously unfeasible. Farmers supplied results more readily when only 60 percent subsidy occurred, probably because some risk was involved on their part. This was opposed to where some counties supplied the remaining 40 percent of the costs and the result was less interest and cooperation. The province carried out some on-farm research at relatively low cost which resulted in delineation of areas where the practise would work.

Weaknesses of the Incentive: thirty percent of the participating farmers got no increased yield after the ploughing and ten percent actually had a yield reduction (the incentives actually failed to work in those cases). The time lag of 1, 2, or 3 years before any increased yields can occur makes farmer acceptance more difficult. Variable results were also attributable to the county agricultural services officers that were to serve as facilitating resources to the program. Some officers were interested, others were not.

2. Farm Diversification Program (Manitoba)

Overview: the Farm Diversification Program originated in 1970 at the time of high grain surpluses on the prairies. The emphasis of the program was to diversify farm production into livestock. This would enable low to middle income farmers to be more flexible over the long run, with both grain and livestock alternatives.

Objective: to permit low to middle income farmers to convert to or expand livestock production.

Eligibility: farmers under 45 years old with gross farm income of $5,000 - $30,000.

Assistance: participants could receive $2,000 grant for nonoperational capital expenses; loans up to $10,000 each at Manitoba Agricultural Credit lending rates for conversion or expansion of livestock operations (security taken was only on the purchase); $1,000 per farmer for on-farm management assistance, workshops, and seminars; the whole package tied to participants working with a farm advisor.

Overall Comments: although this program did have a financing component within itself, the main emphasis was the training aspect of the program.

Strengths of the Incentives: the strength of the program lay in the flexibility of incentive applications. This flexibility permitted tailoring the training and develop-

ment around each individual. The farm advisor's influence oftentimes resulted in grants invested into things the farmer would not likely have invested in on his own, such as livestock handling facilities. The $1,000 training fund was useful in introducing farmers to new services such as feed and soil testing and Canfarm; the fund was also useful in initiating Herd Health programs. Another beneficial aspect of the training fund was its effectiveness in introducing new technologies to the individual. An example would be growing corn, by offering a total demonstration package including good seed, proper fertilizer and herbicide at the recommended rates, good management advice, etc. (if one ingredient was lacking, the demonstration failed). There was ample flexibility in the program to adjust to opportunities. As an example of this, many industrial milk shippers were switched to Class I producers through the program when the market was available.

Weaknesses of the Incentives: the eligibility criteria may have been too flexible with respect to grants, as low income may not always be the best indicator of a farmer's needs (perhaps equity is a better reflection). The follow-up to the work carried out with farmers was found to be lacking -- possibly due to monitoring problems. There was a definite weakness in not initially identifying farmer

needs and gearing the training to meeting that individual's needs. At the individual level, budget limitations may have prevented some development plans from being realized.

3. Hog Industry Production Incentive (Nova Scotia)

Overview: there are only 100 commercial hog producers in Nova Scotia and the provincial government intends to encourage more local hog production.

Objective: to assist in expansion of the hog industry of Nova Scotia.

Eligibility: either be an established commercial hog producer or a new entrant with managerial ability. In both cases they must qualify for loans under the Nova Scotia Farm Loan Board or Farm Credit Corporation regulations.

Assistance: a grant of 25% of construction costs for new or expanded hog production facilities to a maximum of $20,000 per farmer over the duration of the program.

Strengths of the Incentives: since the program's inception three years ago, 25 new producers have been added to the original 100 commercial producers, while 20 producers have expanded their existing production. The result has meant a doubling of production over that period provincially. The fact that both dairy and poultry expansions are locked out by quotas has encouraged farmers to participate in the hog program, as well as the current high prices offered in the

marketplace. Another advantage to the program has been the integration with two other programs offered by the Nova Scotia Department of Agriculture, namely the manure storage incentive and feed facilities incentive programs. Both these programs offer 50% grants on the cost of construction with limits of $6,000 and $12,000 respectively, to give a rather strong inducement to investing in hogs. The program eligibility regulations have been flexible enough to be modified as the program progressed. The program also follows up on the expansions with a health program. Weaknesses of the Incentive: one of the biggest problems in this program was the original eligibility criteria, which was financially sound (a commercial farmer is defined as one who grosses $10,000 per year from agricultural product sales or who obtains more than 50% of his gross income from farming), but weak in selecting good management. This eligibility problem was corrected when a committee was set up to review all applications and refuse individuals with no previous experience raising hogs. Another problem experienced by the program is temporary delays to producers who wish to purchase brood animals, although there are a high number of purebred herds in the province.

4. Small Farm Development Program (National)

Overview: to ease the transfer of agricultural land between

farmers in the low to middle income category through a grant or loan package, and to provide counselling by rural development and farm management staff.

Objective: (two fold)

1. To facilitate farmers in leaving agriculture who wish to retire or change occupations.

2. Increase incomes of low to middle income farmers.

Eligibility: (variable)

1. Farmers who sell their farms for less than $30,000 in Manitoba, Alberta, and Prince Edward Island; farmers who sell their land for less than $25,000 in New Brunswick; and farmers who sell their farms for less than $40,000 in Saskatchewan, British Columbia, and Nova Scotia.

2. Farmers who add land to their existing units with less than $75,000 in productive assets in Alberta, British Columbia, New Brunswick, Nova Scotia, and Prince Edward Island; farmers who add land to their existing units with less than $70,000 in productive assets in Manitoba; and farmers who add land to their existing units with less than $60,000 in productive assets in Saskatchewan. Eligible lenders must buy from eligible vendors.

Assistance:

1. Grants to farm land vendors of $1,500 plus 10 percent of the farm sale price to a maximum total grant of $3,500

cash value.

2. Special credit arrangements with purchasers through Farm Credit Corporation's interest rates and repayment schedules. More recently (in 1977) demonstration funds of $300 per farmer were offered.

Strengths of the Incentives: special credit is useful in inducing farmers to try more risks with minimal security involved (only the purchase is encumbered by a mortgage). The fact that the money was easier to obtain than other forms of credit, was considered a strength for some farmers whose financial resources were stretched thinly. The grant aspect may have hastened some father-son transactions to take place i.e. moved up retirement planning, so that father could take advantage of the program (80 percent of the special credit lenders were involved in father-son transactions). The criteria for special credit seemed to discourage farmers older than 50 from using it. It is premature to assess the impact of the demonstrations.

Weaknesses of the Incentives: the main problem with this program is the criterion of eligibility, particularly the condition whereby special credit is only offered to farmers purchasing from eligible vendors. When a larger farmer decided to sell off some land to a potential special credit recipient, the special credit was unavailable because the

vendor was declared an ineligible vendor. The special credit was not useful for land purchases, and other credit had to be found. Changes to the Farm Credit Act reduced the appeal of special credit by offering higher risk Part IV loans through regular Farm Credit Corporation channels. Finally, the ceiling on productive assets at $60,000 or even at $75,000 for purchase eliminated many farmers due to inflationary pressures on land prices.

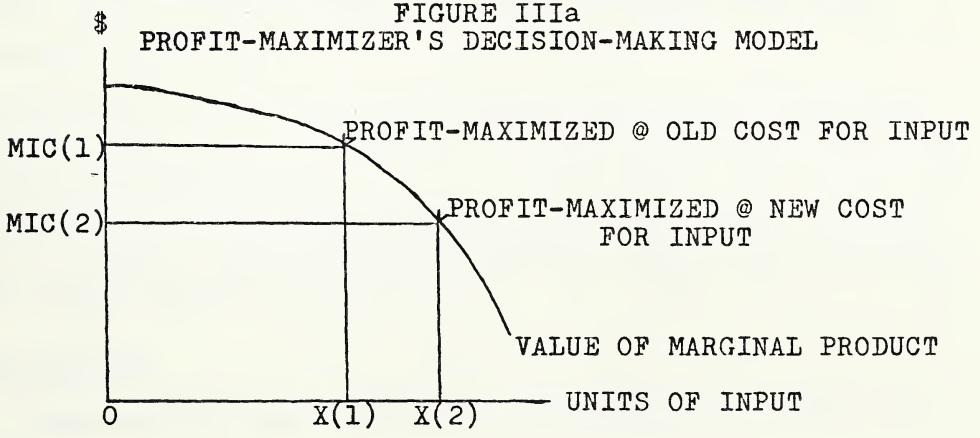
Reviewing the strengths and weaknesses of the above programs can serve as the basis for suggestions in future programming. These will be made in the last section of this paper.

C H A P T E R I I I

POSSIBLE EFFECTS OF INPUT INCENTIVES ON AN ECONOMIC CLASS OF FARMERS

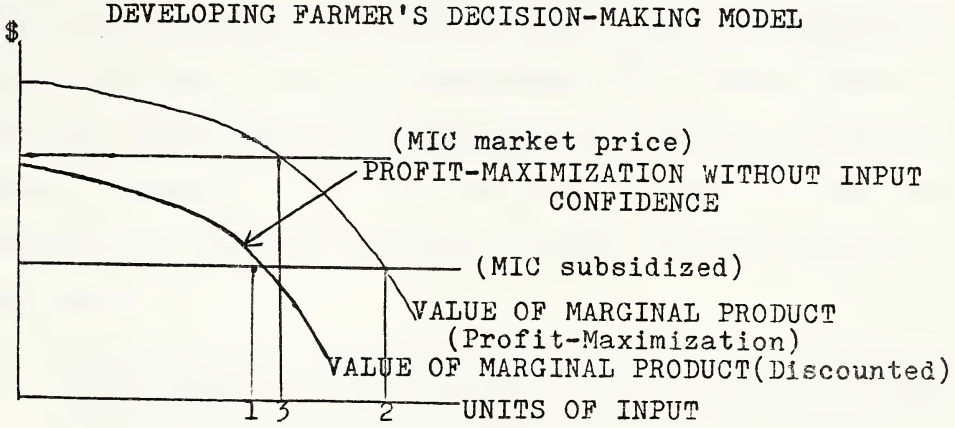
Just what happens to a farmer's decision-making framework when an input subsidy is made available to him? In economic terms the following occurs in the profit-maximizing farmer's mind, assuming he is already using the input (this is why "subsidy" was used rather than "incentive"): first, the farmer visualizes the price of input at MIC (1) (see Figure IIIa) where he would use X(1) level of input to maximize his profits; when the subsidy is offered as a reduction in input cost to MIC (2), the farmer increases his use of input to X(2) level to maintain maximum profits where MIC (2) = VMP, and in addition his production will increase.

FIGURE IIIa
PROFIT-MAXIMIZER'S DECISION-MAKING MODEL



The developing farmer uses a modified version of the same decision-making model as the profit-maximizer as shown in Figure IIIb (because he does not use the input).

FIGURE IIIb
DEVELOPING FARMER'S DECISION-MAKING MODEL



In the former case the greater VMP is based on the technical relationship whereas the latter one is the farmer's perception of the former. Over time (the time interval being his education or the removal of the inability) it is not the value of the marginal product which changes, only his perception of it.

Situation 1 - will not adopt because MIC higher than discounted VMP.
Situation 2 - applies level 1 to point where subsidized MIC equals discounted VMP.
Situation 3 - as he loses fear of unknown, moves to input level 2 where subsidized MIC equals undiscounted VMP.
Situation 4 - when subsidy drops, will apply level 3 where MIC equals VMP.

An Example

Suppose that the Alberta Department of Agriculture is

able to determine through the best analysis available, that the main problem with developing farmers (who are arbitrarily defined as those farmers whose value of production sold falls below $25,000) is an inability to use nitrogen fertilizer in their various operations. The Alberta Government may be particularly interested in reducing the divergence of incomes between the rich and the poor in the farm community for reasons similar to those provided by Crown and Heady;

> If policy were directed at the needs of the relatively disadvantaged in agriculture without regard for region or commodity of major production, the problems of the distribution of income between regions and between producers of various commodities would be considerably, if not entirely, resolved. (6, P.34)

The first step in setting up this sort of program should be to determine the effects of inducing these farmers to use fertilizer, with an input incentive scheme. The group's influence on overall production at present could be estimated from Census data (20) as follows in TABLE III.

Essentially this means that if gross sales below $25,000 was the only criterion for allowing farmers to participate in the incentive program, and all the farmers participated, then the target group is 38,484 farms. It is probably irrational to expect that all farmers would participate in the program, but it may be simpler to assume this is the case for purposes of discussion.

TABLE III

1976 Alberta farm population = 57,310 farms
1976 Alberta gross farm sales = $1,847,633,000

Gross Sales Range*	Number of Farms	% of Alberta Farm Pop'n	Value of Prod'n by Group**	% of Alberta Gross Prod'n
$1,200-$24,999	38,484	67.15	$ 375,878,950	20.29%
over $25,000	18,226	32.85	$1,472,754,050	79.71%

* compressed from 11 ranges in the Census

** value of production was calculated by taking the average of the various ranges of gross sales times the number of farmers in each class and summing them together.

Assuming that the whole group of farmers participated in the program, there then should be a two-fold effect in the marketplace, one for fertilizer inputs and the other for crop outputs. Both effects can be estimated to some degree.

First, to estimate the input effects of increased fertilizer use, means turning to the biological data available. At the 1976 Western Canadian Nitrogen Symposium in Calgary, Alberta, Laverty, Partridge and Hamm estimated the current nitrogen utilization by province, and predicted the future provincial requirements if intensification took place. (13, P.149) The Alberta figures are 302,540 tons currently being used and 356,330 tons which could be used under intensification. The difference is 53,790 tons. Referring back to our original estimates, recall that farmers who grossed under $25,000, contributed 20 percent to the total sales. It follows that one could assume 20 percent of the intensification with fertilizer would be equated with this group. The fertilizer used under the program should be 20 percent of 53,790 tons or 10,750 tons. With this figure, planners could predict any local shortages which may arise, or whether fertilizer applicators would be locally available, or a host of other contingencies which could occur -- even perhaps to estimating fertilizer price

hikes due to increased demand.

Output could also be estimated once the input requirement is known. This could be subject to a number of variable factors, like climatic conditions. A 'guesstimate' from the University of Alberta Soil Science Department, claims one pound of total nitrogen applied should produce ten pounds of grain, under average conditions. If all the fertilizer used by the program's participants went into wheat production, then the result would be an extra 3.5 million bushels of wheat due to the program. Other crops in various combinations could be gauged to compare effects similarly. Since prices for grain are not determined by Alberta's production, there should be minimal effects on the price. Output problems in this example would probably involve restrictions on local elevator deliveries.

Although the above example would not likely occur in the real world, the analytical approach could certainly be applied using the most refined tools available. Too often programs are launched with input incentives to encourage more production without quantifying the effects on both inputs and outputs that are involved. Gwyn James depicts the resulting situation very well when he states;

> All such projects, if successful, lead to an increase in output per unit area of land. But the history of supply control throughout the wealthier nations of the

> world over the past twenty years shows that Governments are 'up the proverbial creek'. On the one hand, measures are adopted to persuade farmers to produce less so that total supply may more nearly equal market demand. On the other hand, schemes are simultaneously operated that incite producers to increase production -- support prices and input subsidies. It is little wonder therefore, that the problem of oversupply of farm products has grown over the years into, in many cases, embarrassing proportions. (11, P.248)

At the risk of 'flogging a dead horse', the fertilizer incentive example does provide insight into what is a very complex process. Foremost is problem identification, in this case that of determining the need for an input incentive program like fertilizer. If this need can somehow be checked by surveying the farmers, or monitoring farmer needs through field staff etc., and the end result is a bona fide need, then developing a program is in order. There is a strong temptation by policy-makers to create a program first, and check needs afterwards when the program is underway. This destroys the farmer's faith in government and its programs.

C H A P T E R I V

SUGGESTIONS FOR FUTURE PROGRAMMING WITH INPUT INCENTIVES

On the basis of the programs reviewed and the hypothetical example of how an input incentive can affect markets, the following suggestions are put forward:

1. Frequency of input incentives: as originally defined in this paper, input incentives should remain terminable, and not become institutionalized subsidies which are now like farm credit. (6, P.64)

2. Delivery of input incentives: packages rather than single incentives may be far more effective. This ensures a new technology is given fair consideration in that all factors necessary for production are correct. As an example, supplying good seed without using the proper herbicides, fertilizers, etc. will probably prove unsatisfactory.

3. Timing of input incentives: real consideration should be given to the timing of input incentives relative to non-farm economic fluctuations. Adoption of new technologies is greater during non-farm economic expansion than contraction. (4, P.69)

4. Size of the input incentive: it would appear that results are more favorable when only part of the input cost

is borne by the promoting agency, and the remainder paid by the farmer. He is exposed to some risk, and there is a vested interest to hold his attention.

5. Results of the input incentive: due to the fact that the results of several inputs are not readily apparent in the first year or two, it is necessary that follow-up be carried out to ensure that the benefits do not go unnoticed by the farmer.

6. Criteria of input incentive programs: the criteria are critical in the effectiveness of the incentive. Flexibility should be the rule when in doubt and adjustments made quickly during the program.

7. Uniqueness of the input incentive: the input incentive should be unique to the target group. Duplication of the same incentive from other agencies detracts from the effectiveness.

8. Assessment of the impact of input incentives: more quantitative estimates of the impact of input incentives upon both inputs and outputs must be carried out.

9. Suitability of the input incentive: the incentive must meet farmer needs, known or unknown, in order to motivate him.

C H A P T E R V

CONCLUSION

An investigation has been carried out to identify the role of input incentives in Canadian agricultural development. As a result of interviewing the respective program managers, the experiences of four input incentive programs were briefly examined for strengths and weaknesses of each incentive involved. In addition, a hypothetical example was used to illustrate the implications of an input incentive program upon the various markets involved. Nine suggestions were enumerated for future programming with input incentives.

Although this paper has examined only four of the two hundred and sixty-seven input incentive programs listed among the provincial agricultural programs (12), some meaningful suggestions were formulated. A future study of each program would undoubtedly provide a textbook of suggestions for future program planning.

A serious drawback of all input incentive programs is the lack of adequate evaluation of their effects on markets, particularly input markets. Future programs should incorporate a means to identify and quantify these effects prior to implementation.

The purpose of this paper was to determine the role of input incentives in Canadian agricultural development. Although total clarification of the role cannot be made in one paper, it is hoped however, that this paper raises some interest in further identification of the role of input incentives in subsequent studies.

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APPENDIX A

* Indicates Programs Selected As Incentive-Type

BRITISH COLUMBIA POLICIES AND PROGRAMS FOR AGRICULTURE

Contents

Programs Listed Numerically

FIELD CROP AND HORTICULTURAL PROGRAMS

B.01 Horticultural Crop Production And Marketing
B.02 Horticulture Regulation And Inspection
B.03 Allotment Gardens
*B.04 Field Crops Production And Marketing
B.05 Field Crop Regulation And Inspection

LIVESTOCK PROGRAMS

*B.06 Livestock Production And Marketing
*B.07 Grazing Permits
B.08 Livestock Regulation And Inspection
*B.09 Livestock Financial Assistance
B.10 Livestock Control Areas
B.11 Domestic Animal Protection
*B.12 Artificial Insemination
B.13 Record Of Performance
B.14 Livestock Brands
B.15 Meat Inspection
B.16 Cattle Improvement and Promotion
B.17 Dairy Herd Improvement
B.18 Milk Board
B.19 Dairy Farm And Dairy Plant Inspection
B.20 Dairy Laboratory
B.21 Dairy Products Promotion Fund
B.22 Dairy Producer's Protection Fund
B.23 Dairy Farm Metric Conversion Fund
B.24 Poultry Production and Marketing
B.25 Poultry Regulation And Inspection

SOILS, LAND DEVELOPMENT AND CONSERVATION

B.26 Soils Advisory Service
B.27 Soil, Feed And Tissue Testing Laboratory
*B.28 Agricultural Land Development
*B.29 Lime Assistance
*B.30 Soil and Water Conservation - ARDA

INSECTS, DISEASES, PEST AND BEE PROGRAMS

B.31 Pest Identification And Control
B.32 Pesticide Regulation And Inspection
B.33 Pesticide Laboratory
B.34 Grasshopper Control
B.35 Apiculture Production And Marketing
B.36 Apiculture Regulation And Inspection
*B.37 Beeyard-Bear Protection Incentive Program
B.38 Plant Pathology

LIVESTOCK DISEASE CONTROL AND TREATMENT AND ENGINEERING PROGRAMS

B.39 Veterinary Advisory Service
B.40 Veterinary Service Districts
B.41 Veterinary Drugs Regulations And Inspection
B.42 Veterinary Laboratory
B.43 Engineering Advisory Service

AGRICULTURAL ECONOMICS PROGRAMS

B.44 Research - ARDA
B.45 Farm Business Management
B.46 Property Management
*B.47 Farm Products Finance
*B.48 Agricultural Credit
*B.49 Peace River Livestock Production Incentive
B.50 Crop Insurance
B.51 Farm Income Assurance
B.52 British Columbia Marketing Board
B.53 Agricultural Product Marketing
B.54 B.C. Food Promotion
B.55 Agricultural Statistics
B.56 Policy Development And Planning
B.57 Youth Development
B.58 B.C. Land Commission
B.59 Farm Vacations
B.60 Land Use And Farm Adjustment - ARDA
*B.61 Crown Land Leases
*B.62 Alternative Income And Employment Opportunities - ARDA
B.63 Rural Development Services And Training - ARDA
*B.64 Special ARDA
*B.65 Small Farm Development

AGRELATURE PROGRAMS

B.66 Information Services

B.67 Agricultural Development And Extension
B.68 Exhibitions And Fall Fairs
B.69 Coordinated Agricultural Research
B.70 Demonstrations Of Agricultural Technology And Economics
B.71 B.C. Food Advisory Council
B.72 Farmers' And Women's Institutes
B.73 4-H Program

ALBERTA POLICIES AND PROGRAMS FOR AGRICULTURE

Contents

Programs Listed Numerically

AGRELATURE PROGRAMS

A.01 District Agriculturist
A.02 District Home Economist
A.03 Agricultural Law
A.04 Publications
A.05 Agri-News Releases
A.06 Green Certificate Program - Farmer Training
A.07 Agricultural Service Boards
A.08 Agricultural Societies Program

FIELD CROP AND LIVESTOCK PROGRAMS

A.09 Plant Industry Laboratory
A.10 Crop Improvement
*A.11 Municipal Seed Cleaning Plant
*A.12 Native Range Incentive Program
A.13 Horticulture Liaison
*A.14 Vegetable Producer's Loan
*A.15 Market Garden Development
A.16 Provincial Shelter Belt
A.17 Soil And Feed Testing
*A.18 Livestock And Semen Fund
A.19 Livestock Disaster Indemnity Program
A.20 Livestock Regulatory Services
A.21 Dairy Farm Inspectors
A.22 Dairy Herd Improvement
A.23 Dairy Control Board
*A.24 Dairy Development Incentive Program
A.25 Dairy Inspection And Advisory Service
A.26 Record Of Performance
A.27 Feeder Association
*A.28 Ewe Land Retention
A.29 Swine Production
A.30 Poultry Services
A.31 Horse Industry Branch
A.32 Fur Farms

SOILS, DISEASES, PESTS AND ENGINEERING PROGRAMS

*A.33 Lime Demonstration For Acid Soils
A.34 Irrigation Division

A.35	Apiculture
A.36	Pest And Disease Control
A.37	Weed Control And Field Services
*A.38	Warble Control Area
A.39	Veterinary Laboratory Services
A.40	Veterinary Field Services
A.41	Rabies Wildlife Sector Control
A.42	Agricultural Engineering Services
A.43	Farm Structures
A.44	Home Design
*A.45	Water And Sewage Systems
A.46	Livestock Equipment
A.47	Animal Waste Management
A.48	Farm Implement Act

AGRICULTURAL ECONOMICS PROGRAMS

A.49	Farm Management
A.50	Canfarm
A.51	Production Economics
A.52	Agricultural Manpower
*A.53	Alberta Future Farmers
*A.54	Production Development
*A.55	Specific Guaranteed Farm Loan
*A.56	Direct Loan Program
*A.57	Beginning Farmers' Program
A.58	Natural Disaster Loan Program
*A.59	$50,000 Guaranteed Loan Program
A.60	Agricultural Products Marketing Council
A.61	Feed And Forage Exchange
A.62	Farmers' Market
A.63	Nutrition And Food Marketing
A.64	Agricultural Processing
A.65	Market Analysis
A.66	Business Management
A.67	Farmers' Advocate Of Alberta
*A.68	Small Farm Development
A.69	Alberta Disaster Service Liaison

SASKATCHEWAN POLICIES AND PROGRAMS FOR AGRICULTURE

Contents

Programs Listed Numerically

FIELD CROP AND HORTICULTURE PROGRAMS

S.01 Crop Insurance (Federal-Provincial)
*S.02 Grants To Seed Control Areas
S.03 Policy For Construction Of Co-operative Seed Cleaning Plants
*S.04 Special Crop Demonstrations
*S.05 Hay Cutting On Provincial Land
*S.06 Community Pastures
S.07 Losses In Provincial Community Pastures Compensation

LIVESTOCK PROGRAMS

S.08 Pollution By Livestock
S.09 Relocation Of Intensive Livestock Operations
S.10 Record Of Performance (ROP) Program (Federal - Provincial)
S.10.01 Home Test
S.10.02 Station Test
S.11 Abattoir Meat Inspection Policy (Federal - Provincial)
S.12 Dairy Herd Testing
S.12.01 Herd Improvement Service Policy Association Members
S.12.02 Non-Members Of Improvement Associations
S.13 Milk Control Board (Federal - Provincial)
S.14 Bull Rental For Provincial Community Pastures
*S.15 Calf - Cash Advance Program
*S.16 Ewe Lamb Retention Policy
S.17 Federal-Provincial Record Of Performance Sheep (Home Test Flock Policy)
*S.18 Freight Equalization Policy - Sheep and Wool
S.19 Sheep Flock Health Policy
S.20 Saskatchewan Sheep and Wool Marketing Commission
S.21 Swine Herd Health Policy
S.22 Saskatchewan Hog Marketing Commission
S.23 Hatchery Supply Flock Policy
S.24 Grants For Horse Racing

SOILS PROGRAMS

*S.25 Allocation Of Irrigable Land
*S.26 Assistance Policy For Irrigation Development

*S.27 Water Control Projects
S.28 Land Improvement
*S.28.01 Cultivation Leases
*S.28.02 Grazing Leases
*S.28.03 Co-operative Grazing Associations (Federal-Provincial)
*S.29 South Saskatchewan River Irrigation Project Land Purchase Policy
*S.30 Saskatchewan Land Bank Commission
*S.31 Leasing Of Provincial Lands
*S.32 Sale Of Cultivated Provincial Lands
S.33 Non-Agricultural Dispositions Of Provincial Land
S.33.01 Sand And Gravel
S.33.02 Roads And Highways
S.33.03 Compensation On Petroleum And Gas Sites
S.34 Assistance For Regional Program Development

INSECTS, DISEASES AND PEST PROGRAMS

S.35 Insect Control
S.36 Weed Control
S.37 Weed And Insect Control On Unleased Crown Land
*S.38 Warble Control
S.39 District Veterinary Clinics
S.40 Veterinarians' Travelling Costs
S.41 Assistance To Veterinary Students
S.42 Summer Employment Of Veterinary Students Policy
Veterinary Student Employment Program
S.43 Losses Due To Rabies (Federal-Provincial)
S.44 Coyote Control

ENGINEERING PROGRAMS

S.45 Farm Buildings Plan Service (Federal-Provincial)
S.46 Agricultural Implements Board
*S.47 Test Well Drilling
S.48 Emergency Farm Dugout Pumping Service
S.49 Water And Sewage
*S.49.01 Farms Water And Sewage
S.49.02 Small Community Water And Sewage

AGRICULTURAL ECONOMICS AND AGRELATURE PROGRAMS

S.50 Canfarm (Federal-Provincial)
*S.51 FarmStart
*S.52 Market Development Fund
*S.53 Small Farm Development (Federal-Provincial)
*S.54 Farm Cost Reduction
S.55 District Agricultural Fieldmen

S.56 Agricultural Manpower Training Courses (Federal-Provincial)
S.57 One Week Skill Courses
S.58 Grants To Agricultural Organizations And Exhibitors

MANITOBA POLICIES AND PROGRAMS FOR AGRICULTURE

Contents

Programs Listed Numerically

FIELD CROP AND HORTICULTURE PROGRAMS

M.01 All-Risk Crop Insurance And Hail Insurance
M.02 Waterfowl Damage Fund
M.03 Big Game Protection And Damage Compensation Fund
M.04 Crop Production (Cereal And Flax)
M.05 Forage Seed Production
M.06 Forage Production
*M.07 Community Pasture Program (Manitoba-Canada Agreement 01939)
M.08 Pasture Management
M.09 New Crop Opportunities
M.10 Special Crop Production
*M.11 Horticulture (Pomology)
*M.12 Vegetable Production And Marketing
M.13 Horticulture (Ornamentals And Landscaping)
M.14 Advisory Committee On Tree Protection

LIVESTOCK PROGRAMS

M.15 Livestock And Poultry Management, Nutrition
*M.16 Grassland Societies
M.17 Artificial Insemination Program (Beef And Dairy Cattle)
M.18 Recommended A.I. Sire Listings - Beef And Dairy
M.19 Dairy Product Improvement And Consulting
M.20 National Identification Program Dairy Cattle
*M.21 Industrial Milk Expansion Program
M.22 Milk Recording - Dairy
M.23 R.O.P. Beef Cattle
M.24 Manitoba Producers Income Assurance Program
M.25 Performance Testing Of Sheep
*M.26 Federal-Provincial Sheep Transportation Policy
*M.27 Federal-Provincial R.O.P. Program - Swine
M.28 Commercial Hog Improvement Program
M.29 Poultry Inspection
M.30 Poultry Management

SOIL, WATER AND ENGINEERING PROGRAMS

M.31 Soil Management Advisory Service
M.32 Soil Survey
M.33 Soil Testing Service

M.34 Farm Drainage Survey
*M.35 Rural Water Services Program (ARDA III)
*M.36 Water Services Board Program
*M.37 Community Well Program
M.38 Farm Buildings
M.39 Farm Machinery Board
M.40 Power And Machinery

INSECT, DISEASE AND PEST PROGRAMS

M.41 Pesticides Control
M.42 Entomology Extension
M.43 Insecticide Supply Program
M.44 Apiculture Extension
M.45 Apiculture Apiary Inspection
M.46 Plant Pathology
M.47 Weed Control Districts Program
M.48 Animal Disease Investigation Program
M.49 Veterinary Service District
M.50 Veterinary Diagnostic Laboratory

AGRICULTURAL ECONOMICS PROGRAMS

*M.51 Farm Diversification Program (ARDA III, Fred)
M.52 Canfarm
M.53 Special Studies Section
M.54 General Farm Management
*M.55 Small Farm Development Program
M.56 Inter-Lake - Manpower Corps
M.57 Canada Farm Labour Pool System
M.58 Rural Step 1975
M.59 Agricultural Manpower Services
*M.60 Direct Loans To Farmers (Part III Of The Act)
*M.61 Guaranteed Agricultural Production Credit
*M.62 Co-operative And Corporations And Partnerships Loans
*M.63 Land Lease Program
*M.64 Stocker Program
M.65 Manitoba Marketing Board
M.66 Market Analysis For Agricultural Products
*M.67 Market Development Assistance For Agricultural Products
*M.68 Promotional Assistance For Agricultural And Food Products
M.69 Agricultural Crown Land Leasing Program
*M.70 Manitoba Indian Agricultural Program

RURAL SOCIOLOGY PROGRAMS

M.71 Agricultural Societies
M.72 Agricultural Extension Centre
M.73 Horticultural Societies
M.74 Manitoba Women's And Institute
M.75 Community Affairs Program, Community Affairs Specialist (ARDA III)
M.76 Community Affairs Program Rural Development Counselling (ARDA III)
M.77 Home Economics
M.78 4-H And Youth Programs

ONTARIO POLICIES AND PROGRAMS FOR AGRICULTURE

Contents

Programs Listed Numerically

AGRELATURE

0.01 Communication And Publicity
0.02 Farm Safety
0.03 Communication
0.04 Ontario Agricultural Museum
0.05 Veterinary Extension
0.06 Animal Health Education
0.07 Agricultural Education
0.08 Agricultural Research
0.09 Agricultural Economics Research
0.10 Animals For Research
0.11 Research, ARDA
0.12 Agricultural Societies Act
0.13 Plowing Associations
0.14 Horticultural Societies Act

FIELD CROPS AND HORTICULTURE

0.15 Field Crops
0.16 Weeds and Seeds
0.17 Crop Insurance (Federal-Provincial)
0.18 Horticulture and Pesticides
0.19 Farm Products Inspection
0.20 Grape Conversion Assistance
*0.21 Elite Seed Potato Program

LIVESTOCK

0.22 Livestock Specialists
0.23 Regional Shows
0.24 Foreign Exhibitions
*0.25 Northern Ontario Livestock Transportation Assistance Policy
0.26 Consignment Sales
0.27 Meat Inspection
0.28 Ontario Stock Yards Board
0.29 Livestock Community Sales
0.30 Cattle Health Program
0.31 Dog Licensing and Livestock and Poultry Protection
0.32 Bear Damage to Livestock Compensation Program
0.33 Hunter Damage Compensation
0.34 Livestock Branding

*0.35 Livestock Improvement Program for Northern Ontario
*0.36 Artificial Insemination of Livestock
0.37 Dairy Herd Improvement
0.38 Milk Commission
0.39 Milk Quality Program
0.40 Fund for Milk and Cream Producers
0.41 Milk Products
0.42 Milk Marketing Control Program
0.43 Central Milk Testing
0.43.01 Processor Calibration Samples
0.43.02 Control Testing
0.43.03 Applied Research
0.44 Oleomagarine and Edible Oils
0.45 Beef Calf Income Stabilization Program
0.46 Beef Cattle Marketing
0.47 Beef Cattle Performance Testing
*0.48 Federal-Provincial Sheep Assistance Policy
0.49 Performance Testing Policy for Sheep
*0.50 Ram Premiums Policy
0.51 Performance Testing Program for Swine
0.52 Swine Health Program
0.53 Hatchery Supply Flock Policy
0.54 Pregnant Mare Urine Farms Act
0.55 Riding Horse Establishments
0.56 Fur Farms Act

SOILS AND ENGINEERING

*0.57 Development of Agricultural Drainage and Water Resources in Ontario, ARDA
*0.58 Tile Drainage Act
*0.59 Drainage Act
0.60 Agricultural Tile Drainage Installation Act
0.61 Farm Machinery Board

INSECTS, LIVESTOCK DISEASES AND ENGINEERING

0.62 Provincial Pesticide Residue Testing Laboratory
0.63 Provincial Apiarist
0.64 Provincial Entomologist
0.65 Warble Fly Control
0.66 Animal Disease Statistics
0.67 Brucellosis Control
0.68 Rabies Indemnification
0.69 Laboratory Services
0.70 Dead Animal Disposal
0.71 Veterinary Assistance Policy for Designated Areas
0.72 Livestock Medicines
0.73 Engineering Advisory Services

AGRICULTURAL ECONOMICS

0.74	Farm Management
*0.75	Housing for Seasonal Workers
0.76	Manpower Recruitment and Placement
0.77	Training of Agricultural Workers
*0.78	Capital Grants For Farm Management
0.79	Farm Tax Reduction
*0.80	Young Farmer Credit Program
0.81	Ontario Food Council
0.82	Ontario Food Terminal Board
0.83	Farm Products Marketing Board
*0.84	Northern Ontario Assistance Program
0.85	Agricultural Code of Practice
*0.86	Farm Enlargement and Consolidation Program, ARDA
0.87	Rural Community Development, ARDA
0.88	Junior Farmers Program
0.89	Junior Agriculturalist Program
0.90	4-H Agricultural Club Program
0.91	Home Economics

QUEBEC POLICIES AND PROGRAMS FOR AGRICULTURE

Contents

Programs Listed Numerically

AGRICULTURE

Q.01 Courses in Agricultural Technology
Q.02 Courses for Training Farmers
Q.03 Courses in Vocational Agriculture
Q.04 Agricultural Research Program
Q.05 Assistance for Agricultural Research
Q.06 Assistance to Swine and Sheep Breeders' Association
Q.07 Financial Assistance to the Quebec Sheep Federation
Q.08 Assistance to Associations of Purebred Dairy Cattle Breeders
Q.09 Assistance to Quebec Beef Cattle Breeders' Association
Q.10 Assistance to Purebred Beef Cattle Breeders' Association

FARM ECONOMICS

*Q.11 Partial Reimbursement of Municipal and School Taxes
*Q.12 Financial Assistance for Building Living Quarters for Seasonal Help
*Q.13 Special Programs Service: Assistance for Transportation of Agricultural Workers
*Q.14 An Act to Promote the Development of Agricultural Operations - Grants
*Q.15 Act to Promote Credit to Farm Producers (Short Term Credit)
*Q.16 Farm Credit Act (Medium and Long Term Credit)
Q.17 Act to Promote Special Credit to Farm Producers During Critical Periods
*Q.18 Farm Improvement Act
*Q.19 Interest Subsidy to Quebec Borrowers From F.C.C. and V.L.A.
*Q.20 Interest Subsidy Granted to Quebec Borrowers From the Farm Credit Corporation and Under Veterans' Land Act

SOILS

*Q.21 Illustration Plots
*Q.22 Subsidy for the Purchase of Ground Agricultural Limestone
*Q.23 Subsidy for Marl

*Q.24 Assistance for the Transportation of Granulated Fertilizers
*Q.25 Development, Improvement and Maintenance of Municipal Watercourses
*Q.26 Underground Drainage
*Q.27 Construction of Farm Ponds
*Q.28 Supply of Drinking Water
*Q.29 Land Improvements
*Q.30 Development of Unused Farm Land

LIVESTOCK

Q.31 Livestock Transportation Assistance
Q.32 Compensation to Breeders who Sustain Losses of Cattle or Sheep
Q.33 Meat Inspection (Quebec Approved)
*Q.34 Encouragement of Artificial Insemination
Q.35 Special Assistance to Quebec Industrial Milk Producers
*Q.36 Postal Cow Testing
Q.37 Quebec Dairy Herd Analysis Program (Regular)
Q.38 Quebec Dairy Herd Analysis Program (Official) Replaces the Previous Program
*Q.39 Dairy Heifer Breeding and Marketing Program
*Q.40 Financial Assistance for Dairy Heifer Breeders in Eastern Quebec
Q.41 Assistance for the Transportation of Milk and Cream to Regional Plants
Q.42 Standardization of Industrial Milk Price
Q.43 Subsidy for the Amalgamation of Pasteurization Plants or Ice Cream Factories
Q.44 Subsidies for the Amalgamation of Dairy Product Plants
Q.45 Genetic Program R.O.P. on Home Test
*Q.46 R.O.P. Station Test
*Q.47 Encouragement of Breeding of Beef Cattle
*Q.48 Assistance to Purchase Tested Bulls
*Q.49 Special Measures for Areas Where There is no Cattle Improvement Club (C.A.B.)
Q.50 Farm Income Stabilization - Beef
Q.51 R.O.P. - Sheep, Home Test
*Q.52 R.O.P. Rams on Station Test
*Q.53 Subsidies to Buy Ram and Ewe-lambs Tested in Quebec
*Q.54 Placement of Finnish Landrace Rams
*Q.55 Assistance for the Production of Replacement Ewe-Lambs
Q.56 Assistance to Improve the Health of Sheep
*Q.57 Artificial Insemination of Swine

*Q.58 Animal Production Programs: Subsidy for the Production of Purebred Boars and Sows, and Cross-bred Sows
*Q.59 Assistance for the Health of Swine
*Q.60 Poultry Breeding
*Q.61 Improvement of Poultry Health
*Q.62 Promotion of Production of Geese and Ducks
*Q.63 Encouragement of Production of Rabbit Meat

FIELD CROPS AND HORTICULTURE

*Q.64 High Moisture Corn
*Q.65 Regional Competitions for Corn Silage
*Q.66 Assistance for the Production of Pedigreed Seed
*Q.67 Regional Alfalfa Competitions
Q.68 Soybeans
*Q.68.01 District Competitions
*Q.69 Rapeseed
*Q.70 Field Beans and New Crops
Q.71 Propagation of Strawberry and Raspberry Plants
*Q.72 Encouragement of Blueberry Industry
*Q.73 Certified Seed Potatoes
*Q.74 Promotion of Maple Syrup Production

BEES AND ANIMAL DISEASES

*Q.75 Bees
Q.76 Control of Rabies (In Cooperation with Agriculture Canada)
Q.77 Vaccination of Mink
Q.78 Contributory Animal Health Insurance
Q.79 Preventive Veterinary Medicine
Q.80 Assistance for Establishment of Veterinarians in Designated Districts
Q.81 Blackleg Vaccination
Q.82 Accreditation of Practising Veterinarians

NEW BRUNSWICK POLICIES AND PROGRAMS FOR AGRICULTURE

Contents

Programs Listed Numerically

FIELD CROPS, HORTICULTURE AND FORESTRY

N.B.01 Crop Insurance
*N.B.02 Pedigreed Cereal Seed Assistance
N.B.03 Feed Grain Transportation
*N.B.04 Farm Grain Storage and Processing - F.F.I.P.
*N.B.05 Apple Industry Development
*N.B.06 Processing Apple Transportation
*N.B.07 Apple Storage - F.F.I.P.
*N.B.08 Potato Storage Ventilation - F.F.I.P.
*N.B.09 Vegetable Storage - F.F.I.P.
*N.B.10 Greenhouse Facilities - F.F.I.P.
*N.B.11 Greenhouse Industry Development
*N.B.12 Christmas Tree Management Assistance
*N.B.13 Farm Forestry Improvement - F.F.I.P.
*N.B.14 Tree Farm Woodlot Stand Improvement

SOILS AND ENGINEERING

*N.B.15 Agricultural Limestone Assistance
*N.B.16 Sub-Surface Drainage - F.F.I.P.
*N.B.17 Soil Erosion Control - F.F.I.P.
*N.B.18 Stream Bank Protection - F.F.I.P.
*N.B.19 Small Farm Improvement - F.F.I.P.
*N.B.20 Farm Development - F.F.I.P.
*N.B.21 Marshland Development - F.F.I.P.
*N.B.22 Farm Machinery Loans
*N.B.23 Agricultural Pollution Control - F.F.I.P.
*N.B.24 Livestock Feed Handling and Marketing Facilities
*N.B.25 Stand-By Electric Power

AGRICULTURAL ECONOMICS AND AGRELATURE

N.B.26 Farm Management
N.B.27 Farm Accounting Service
*N.B.28 Farm Adjustment
*N.B.29 Farm Credit Corporation Assistance
*N.B.30 Farm Improvement Assistance Loans
*N.B.31 Family Farm Improvement Program - F.F.I.P.
*N.B.32 New Brunswick Agricultural Resource Conservation and Development - F.F.I.P.
*N.B.33 Small Farm Development Program
N.B.34 Natural Products Control Act

N.B.35	Assistance to Regional Development Organizations
N.B.36	Rural Beautification
N.B.37	4-H Club Program
N.B.38	Adult Education, Agriculture
N.B.39	Extension Education, Agriculture

LIVESTOCK, BEES AND LIVESTOCK DISEASES

*N.B.40	Livestock Incentives
N.B.41	Livestock Compensation
N.B.42	Assistance to Livestock Exhibitors at the Royal Winter Fair
N.B.43	Agricultural Fairs Grants
N.B.44	Breed Association Grants
N.B.45	Agricultural Society Grants
N.B.46	Grants to Artificial Insemination Co-ops and to Breed Associations
N.B.47	Dairy Herd Analysis Service and Dairy Herd Improvement Service
*N.B.48	Dairy Cattle Facilities Improvement - F.F.I.P.
*N.B.49	Dairy Cattle Facilities Improvement "SPECIAL"
*N.B.50	Dairy Cattle Silage Conversion
*N.B.51	Dairy Industry Development Program
N.B.52	Cream Transportation Assistance
*N.B.53	Herdman Relief Service
*N.B.54	Artificial Insemination for Small Herds
N.B.55	Herd Health
N.B.56	Technical Record Keeping Assistance
N.B.57	Dairy Farm Planning Service
*N.B.58	Beef Cattle Facilities Improvement - F.F.I.P.
*N.B.59	R.O.P. Beef Cattle Test Station Assistance
*N.B.60	Beef Producers Sire Assistance
*N.B.61	Beef Cattle Testing Program
*N.B.62	Sheep Expansion Incentive
*N.B.63	R.O.P. Sheep Test Station Assistance
*N.B.64	Transportation Assistance to Sheep Producers
*N.B.65	Sheep Facilities Improvement - F.F.I.P.
*N.B.66	Swine Assistance on Boars
*N.B.67	Swine Facilities Improvement - F.F.I.P.
N.B.68	Hog Price Stabilization
*N.B.69	Poultry Facilities Improvement - F.F.I.P.
N.B.70	Hatchery Supply Flock
*N.B.71	Honey Bees for Pollination
N.B.72	Clinical Veterinary Service

NOVA SCOTIA POLICIES AND PROGRAMS FOR AGRICULTURE

Contents

Programs Listed Numerically

FIELD CROPS, HORTICULTURE AND BEES

*N.S.01 Pedigreed Seed Grain Production
N.S.02 Crop Insurance
*N.S.03 Tree Fruit Production
*N.S.04 Lowbush Blueberry Land Clearing
N.S.05 Certified Seed Potato Assistance
*N.S.06 Maple Syrup Production
*N.S.07 Transportation Assistance for Importation of Package Bees and Extra Queens
*N.S.08 Transportation Assistance for Honey Bee Colonies for Lowbush Blueberry Pollination

LIVESTOCK

N.S.09 Breed Promotion
*N.S.10 Cream Hauling Assistance
N.S.11 Production Incentive Program for Manufacturing Milk and Farm Separated Cream
*N.S.12 Beef Production
*N.S.13 Improved Sire (Purebred Beef Cattle)
*N.S.14 Improved Sire (Commercial Beef)
*N.S.15 Improved Sire (Sheep)
*N.S.16 Sheep Production
*N.S.17 Sheep Importation
*N.S.18 Improved Sire (Swine)
N.S.19 Hog Quality Bonus
*N.S.20 Breeders' Guarantee (Swine)
N.S.21 Hog Stabilization
N.S.22 Live Market Hog Transportation
N.S.23 Swine Herd Health

SOILS AND ENGINEERING

*N.S.24 Sheep Pasture Improvement
*N.S.25 Agricultural Limestone Assistance
*N.S.26 Fertilizer Assistance
N.S.27 Main Outlet Drainage
*N.S.28 Maritime Marshland Maintenance
*N.S.29 Land Improvement
*N.S.30 Farm Land Purchase and Leasing
*N.S.31 Assistance to Purchase Limespreading Equipment

AGRICULTURAL ECONOMICS

N.S.32	Canfarm Records Assistance
N.S.33	Farm Work Courses
*N.S.34	Manure Storage Incentive
*N.S.35	Feed Facilities Incentive
*N.S.36	Hog Industry Production Incentive
*N.S.37	Greenhouse Industry Production Incentive
*N.S.38	Bulk Bin Construction Assistance
*N.S.39	Capital Grants
*N.S.40	Livestock Loans Guarantee
*N.S.41	Establishment of New Farmers Interest Forgiveness
*N.S.42	Interest Subsidy
*N.S.43	Farm Loans
N.S.44	School Milk
N.S.45	Market Assistance
*N.S.46	Small Farms Development Program
N.S.47	Exhibition Grants

PRINCE EDWARD ISLAND POLICIES AND PROGRAMS FOR AGRICULTURE

Contents

Programs Listed Numerically

LIVESTOCK

P.01	Feed Testing
P.02	Livestock Breed Associations Grants
P.03	Assistance to Livestock Exhibitors to Out-of-Province Exhibitions
P.04	Meat Inspection
*P.05	F.F.D.P. and N.F.P. - Assistance for the Purchase of Cattle Breeding Stock
*P.06	Purchase Assistance on Female Cattle Breeding Stock Imported to Province
P.07	Veterinary Service Agreement
*P.08	F.F.D.P. and N.F.P. - Assistance for Bulk Tank and Milk House
P.09	Herd Health (Dairy Cattle) Mastitis Control
P.10	Livestock Fertility
*P.11	Beef Breeders Bull Bonus
*P.12	Sheep Premium
*P.13	F.F.D.P. and N.F.P. - Assistance for the Purchase of Sheep Breeding Stock
*P.14	Ewe Assistance
P.15	Sheep Killed by Dogs
*P.16	Swine R.O.P. Home Test, Boar and Gilt Bonus
P.17	P.E.I. Hog Price Stabilization Plan
*P.18	Herd Health (Livestock)
*P.19	F.F.D.P. and N.F.P. - Assistance for Purchase of Swine Breeding Stock
*P.20	Registered Hatchery Assistance
*P.21	F.F.D.P. and N.F.P. - Assistance for the Purchase of Brood Mares
*P.22	F.F.D.P. and N.F.P. - Purchase of Fox Breeding Stock
*P.23	F.F.D.P. and N.F.P. - Purchase of Mink Breeding Stock

FIELD CROPS AND HORTICULTURE

P.24	P.E.I. Crop Insurance Agency
P.25	Grain Elevator, P.E.I. No. 1 Kensington
*P.26	Pedigreed Seed Grain
*P.27	Assistance to Encourage Local Production of Certified Strawberry Plants
P.28	Cull Potato Burial Program

P.29 Field Inspection of Tablestock Potatoes
P.30 Potato Disinfection

SOILS AND ENGINEERING

P.31 Soil Testing
*P.32 F.F.D.P. and N.F.P. - Assistance for Land Improvement
*P.33 Land Development Corporation
P.34 F.F.D.P. and N.F.P. - Assistance on the Capital Cost of Farm Buildings
*P.35 F.F.D.P. and N.F.P. - Assistance for Equipment Purchases
*P.36 F.F.D.P. and N.F.P. - Grain Storage

AGRICULTURAL ECONOMICS, AGRELATURE AND FORESTRY

P.37 Canfarm Records Assistance
P.38 P.E.I. Marketing Board
*P.39 Family Farm Development Program (F.F.D.P.)
*P.40 New Farmer Program (N.F.P.)
*P.41 Small Farm Development Program
P.42 Technical and Vocational Agricultural College Training Assistance
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P.44 Student Grants for Studies Leading to a University Degree
*P.45 Forest Resource Management Incentives

NEWFOUNDLAND POLICIES AND PROGRAMS FOR AGRICULTURE

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Programs Listed Numerically

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NFLD.01 Crop Insurance
*NFLD.02 Regional Pastures
*NFLD.03 Community Pastures and Maintenance of Pasture Lands
*NFLD.04 Blueberry Development
*NFLD.05 Grants for Farm Vegetable Storage
*NFLD.06 Potato Seed Farm
NFLD.07 Demonstration Equipment
NFLD.08 Soil Surveys
*NFLD.09 Land Fertility Scheme
*NFLD.10 Subsidized Land Clearing
*NFLD.11 Farm Access Roads and Flood Control
NFLD.12 Building
NFLD.13 Equipment Bank
NFLD.14 Maintenance of Equipment

LIVESTOCK

NFLD.15 Dairy Herd Analysis Service
*NFLD.16 Artificial Insemination of Cattle in Newfoundland
*NFLD.17 Assistance on Purchase of Purebred Dairy Sires
*NFLD.18 Heifer Bonus Policy
NFLD.19 Calf Identification Program
*NFLD.20 Assistance on Purchase of Beef Sires
*NFLD.21 Sheep Breeding Station
NFLD.22 Sheep Insurance Program
NFLD.23 Dog Act
NFLD.24 Sheep Fair Policy
*NFLD.25 Sheep Foundation Stock
*NFLD.26 Ram Bonus Policy
*NFLD.27 Ewe Grading Policy
NFLD.28 Swine Breeding Stations
*NFLD.29 Swine Production Policy
NFLD.30 Weanling Pig Production Incentive Policy

PESTS AND DISEASES

NFLD.31 Pesticides Laboratory
NFLD.32 Animal Health - Veterinary Service
NFLD.33 Laboratory Equipment, Supplies, Facilities and

	Services
NFLD.34	Disease Control
*NFLD.35	Antibiotics and Drugs

AGRICULTURAL ECONOMICS AND AGRELATURE

NFLD.36	Manpower and Related Research
*NFLD.37	Farm Development Loan Board
*NFLD.38	Capital Assistance Program (ARDA Agriculture Program)
NFLD.39	Product and Market Development
*NFLD.40	ARDA Agreement
*NFLD.41	Programs in Aid
NFLD.42	Agricultural Student Aid
NFLD.43	In Service Training and Orientation
NFLD.44	Information
NFLD.45	Western Newfoundland Agriculture Centre
NFLD.46	Agricultural Exhibitions and Field Days
NFLD.47	Grants to Agricultural Societies

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